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Cotton Fiber and Processing Test Results

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CROP of 1977

Agricultural Marketing Service
U.S. DEPARTMENT OF AGRICULTURE
Memphis, Tenn. 38122 November 4, 1977

COTTON FIBER AND PROCESSING TEST RESULTS, CROP OF 1977

Discussion of Test Results

The average fiber length of short staple cottons tested from the Southwest through October 28 is about the same as a year ago, according to the Cotton Division, Agricultural Marketing Service, USDA. Samples tested are more uniform, finer and considerably stronger than a year ago. Shirley Analyzer nonlint content is somewhat higher, but picker and card waste is lower. Yarns spun from these samples are considerably stronger. Yarn appearance grades are lower. The average spinning potential number is higher.

Average test results for all medium staple samples show fibers to be longer and more uniform than a year ago at this time. Fibers are coarser and stronger at zero gage fiber strength. Shirley Analyzer nonlint content is higher than last season. Yarns spun from these samples show slightly weaker yarns with lower appearance grades. Yarn imperfections are higher.

Medium staple samples tested from the Southeast are shorter and weaker than a year ago at this time. Shirley Analyzer nonlint content is lower as is picker and card waste. Yarn quality shows weaker skein strength and lower appearance grades. Yarn imperfections are fewer than last season. The spinning potential yarn number is lower.

South Central medium staple samples are longer, coarser and weaker than a year ago. Both Shirley Analyzer nonlint content and picker and card waste are higher than last season. Yarns spun from these samples are weaker with lower appearance grades. The imperfection count is higher. The average spinning potential yarn number is higher.

Medium staple samples from the Southwest are longer, more uniform and stronger at zero gage fiber strength tests than a year ago. Picker and card waste is lower. Yarns spun from these samples show lower appearance grades. Imperfections are fewer.

Medium staple samples tested from the West to date have slightly shorter, more uniform and coarser fibers than a year ago. Shirley Analyzer nonlint content is lower. Yarns spun from these samples are weaker than a year earlier. Yarn imperfections are higher. Spinning potential yarn number is lower.

Long staple samples from the Southeast are shorter and less uniform than a year ago. Samples tested are coarser and weaker. Shirley Analyzer nonlint content is higher as is picker and card waste. Yarn strength is lower for carded yarns. Yarn appearance grades are higher than a year ago at this date. Imperfections are fewer. The average spinning potential yarn number is considerably lower than last season on the limited number of samples tested this season.

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These reports are published bi-weekly during the harvesting season and will be summarized in a comprehensive report at the end of the crop year. A detailed description of the tests shown in this report may be found in the summary report for the previous season.1/ These reports are available on request from the Standardization Section, Cotton Division, Agricultural Marketing Service, U. S. Department of Agriculture, 4841 Summer Avenue, Memphis, TN 38122.

1/ Summary of Cotton Fiber and Processing Test Results, Crop of 1976, USDA, AMS, Cotton Division, June 1977.

Table 1.--Cotton: Averages of fiber and processing tests from selected gin points in the United States through October 28, 1977 1/

Staple group Area, and Crop year	Lots tested	Fiber test results						Processing test results				
		Fibrograph		Mike fineness	Fiber strength		S A nonlint	P & C waste	Yarn quality			Spin. Potent.
		2.5% span	50/2.5 unif.		Zero gage	1/8" gage			Skein str.	Appearance	Imperfections	
	No.	Inches	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Lbs.	Index	No.	Yarn No.
									22s Carded Yarn			
Short Staple:												
Southwest												
1976	7	.98	44	4.4	85	20	2.9	6.9	84	111	13	36
1977	29	.98	46	4.2	90	22	3.3	5.6	99	106	13	45
Medium Staple:												
Southeast												
1976	4	1.10	46	4.8	88	24	3.6	6.7	112	105	23	60
1977	14	1.07	46	4.8	87	23	3.1	6.0	99	98	20	50
South Central												
1976	15	1.09	45	4.3	89	24	2.9	5.7	112	101	18	55
1977	71	1.11	45	4.6	86	23	3.6	6.1	106	97	22	58
Southwest												
1976	23	1.07	45	4.2	81	22	3.0	6.1	105	99	20	58
1977	36	1.09	46	4.3	85	22	3.2	5.6	105	93	17	57
West												
1976	2	1.14	45	4.1	90	28	2.8	5.2	129	90	20	76
1977	5	1.13	47	4.3	91	26	2.2	5.4	120	88	26	70
U.S. Average												
1976	44	1.08	45	4.3	85	23	3.0	5.9	109	100	19	58
1977	126	1.10	46	4.5	86	23	3.4	5.9	106	96	21	57
Significant difference 2/		0.02	2	0.2	2	1	0.5	0.5	4(22s)	5	2	3

1/ Based on a limited number of samples of modal quality

2/ Minimum differences considered to be significant for comparisons in this table.

Table 1.--Cotton: Averages of fiber and processing tests from selected gin points in the United States through October 28, 1977 1/ (Continued)

Staple group, Area, and Crop year	Lots	Fiber Test Results						Processing Test Results								
		Length		Mike	Strength		SA Non-lint	P&C Waste	Comber Waste	Yarn Quality						SPY
		Span	Unif		Zero gage	1/8" gage				Strength		Appearance		Imprfctns		
										carded	combed	carded	combed	card	comb	
	No.	In.	Pct.	Rdg.	Mpsi	G/tx	Pct.	Pct.	Pct.	Lbs.	Lbs.	Indx	Indx	No.	No.	No.
										22s Carded & Combed Yarn						
Long Staple:																
Southeast																
1976	2	1.18	47	4.4	91	26	2.3	5.8	14.4	126	146	105	125	21	9	76
1977	3	1.12	46	4.9	85	23	3.2	7.1	*	104	*	110	*	15	*	58
South Central																
1976	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1977	1	1.15	45	4.6	89	24	3.9	6.7	*	109	*	100	*	26	*	64
Significant Difference 2/		0.02	2	0.2	2	1	0.5	0.5	0.5	4(22s)	4(22s) 2(50s)	5	5	2	2	3

1/ Based on a limited number of samples of modal quality

2/ Minimum differences considered to be significant for comparisons in this table.

* Combed data not available.

Table 2 --Cotton, American upland short staple: Quality characteristics by production areas, crop of 1977

Production Area, Classification & Sample Number				Fiber Test Results										Processing Test Results - Carded Yarns									
				Digital Fibrograph		Mike	Fiber Strength		Elon-gat'n 1/8"	S.A. Non-lint	Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprfect'ns		Spin. Poten-tial
No	Grade Name & Code	Stple		2.5% span	Unif		Zero Gage	1/8" Gage			Gra	Yel		8s or 74 tx	22s or 27 tx	8s or 74 tx	22s or 27 tx	8s or 74 tx	22s or 27 tx	8s or 74 tx	22s or 27 tx	
		32s		In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	No	Pct	Lbs	Lbs	Pct	Pct	No	No	No	No	No
SOUTHWEST AREA																							
CENTRAL TEXAS																							
BARDWELL								LANKART 57						98 PERCENT									
3 MID LT SP	32	31		0.98	46	4.4	92	22	5.8	2.8	2	4	5.6	289	96	6.9	5.9	130	110	19	10	45
ITASCA								LANKART LX571						100 PERCENT									
3 MID LT SP	32	31		1.00	45	4.4	91	24	6.0	3.4	2	4	6.3	285	101	7.0	6.0	130	110	28	13	50
PALMER								LANKART LX571						99 PERCENT									
3 SLM LT SP	42	31		0.98	46	4.7	91	21	5.6	4.1	3	4	6.8	286	94	6.6	5.4	130	110	19	11	44
NORTHWEST TEXAS																							
BURKBURNETT								LANKART LX571						97 PERCENT									
1 MID	31	32		1.03	44	4.5	87	24	6.6	2.6	1	4	5.7	308	105	7.6	6.3	120	100	28	21	53
GOREE								TAMCOT SP21						80 PERCENT									
1 MID	31	32		1.00	44	3.7	87	21	5.9	2.8	1	4	4.9 1/	301	105	7.3	6.4	120	90	23	14	49
LAMESA								BLIGHTMASTER A5						75 PERCENT									
1 MID LT SP	32	30		0.94	46	3.6	87	21	6.2	4.5	1	4	6.7	286	96	7.4	5.7	120	110	29	22	38
LOCKNEY								MORCOT M78						80 PERCENT									
1 MID	31	32		1.02	48	4.7	89	24	5.9	2.9	1	4	6.1	322	110	7.1	6.2	130	110	18	9	54
LOOP								GSA71						75 PERCENT									
1 MID	31	31		0.89	46	4.9	92	22	5.6	2.5	1	4	5.5	315	105	7.7	6.3	130	110	18	9	48
RULE								LANKART LX571						100 PERCENT									
1 MID	31	32		1.04	45	4.6	86	22	6.4	2.7	1	4	5.1 1/	310	107	7.4	6.5	130	120	17	8	52
OKLAHOMA																							
GRANDFIELD								LANKART 57						90 PERCENT									
1 MID LT SP	32	32		0.99	48	4.9	83	23	6.8	3.3	1	4	6.2	298	103	7.6	6.5	130	110	18	11	51

1/ Cotton stuck to processing rolls

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1977

Production Area, Classification & Sample Number			Fiber Test Results									Processing Test Results - Carded Yarns									
			Digital Fibrograph		Mike	Fiber Strength		Elon-gat'n 1/8"	S.A. Non-Lint	Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprfect'ns		Spin. Potential
No	Grade Name & Code	Stple	2.5% span	Unif.		Zero Gage	1/8" Gage			Gra	Yel		22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	
		32s	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	No	Pct	Lbs	Lbs	Pct	Pct	No	No	No	No	No
SOUTHEAST AREA																					
ALABAMA																					
BELLE MINA							STONEVILLE 213						98 PERCENT								
3 LM LT SP	52	33	1.03	46	5.0	83	22	6.3	2.8	5	3	7.0	79	24 1/	5.0	4.2	110	70	20	15	25
CENTRE							DIXIE KING III						100 PERCENT								
2 SLM LT SP	42	34	1.05	46	4.6	85	22	5.8	2.8	4	4	5.7	96	32	5.4	4.0	110	80	13	13	53
HILLSBORO							STONEVILLE 213						90 PERCENT								
3 SLM LT SP	42	33	1.06	44	4.6	84	22	6.2	2.5	5	4	5.6	87	26	5.8	3.9	110	70	17	13	43
PRATTVILLE							COKER 417						100 PERCENT								
1 SLM LT SP	42	35	1.13	46	4.7	89	24	5.1	3.3	3	3	5.4	113	39	5.7	4.4	90	70	23	17	71
WILSONVILLE							DELTAPINE 16						90 PERCENT								
1 SLM LT SP	42	34	1.10	44	4.5	80	21	6.7	2.6	2	3	6.0	96	32	6.3	4.5	90	70	16	15	54
SOUTH CAROLINA																					
CHESTER							COKER 417						100 PERCENT								
1 SLM SP	43	35	1.11	46	4.7	88	24	5.7	2.9	5	4	6.8	108	36	5.7	4.3	100	80	16	12	62
MAYESVILLE							COKER 201						100 PERCENT								
1 MID	31	35	1.12	46	5.3	88	24	5.4	2.3	2	4	6.3	96	30	5.3	3.8	80	70	22	17	45
SOUTH CENTRAL AREA																					
ARKANSAS																					
ALTHEIMER							DELTAPINE 16						100 PERCENT								
2 SLM	41	36	1.16	45	4.5	84	23	6.7	2.9	2	2	6.2	110	36	6.8	4.9	90	70	19	15	62
DRIVER							STONEVILLE 213						100 PERCENT								
3 LM	51	34	1.10	44	4.6	85	22	6.0	4.4	4	3	7.1	97	31	5.6	3.9	90	70	26	17	51
DUMAS							STONEVILLE 213						100 PERCENT								
2 SLM	41	35	1.11	47	4.8	84	22	5.9	2.6	2	3	6.1	102	33	5.9	4.4	90	80	14	9	55
HUGHES							STONEVILLE 213						100 PERCENT								
2 SLM	41	35	1.11	46	4.7	84	22	6.0	2.6	3	3	5.9	102	33	5.8	4.3	100	80	17	14	55
LEACHVILLE							STONEVILLE 213						100 PERCENT								
2 SLM LT SP	42	35	1.13	47	5.0	82	22	6.5	2.8	4	4	7.5	99	31	6.0	4.3	90	70	26	21	54

1/ End breakage too high to spin 50s yarn. 44s yarn spun and strength adjusted to equivalent of 50s.

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1977--(Continued)

Production Area, Classification & Sample Number			Fiber Test Results									Processing Test Results - Carded Yarns									
			Digital Fibrograph		Mike	Fiber Strength		Elon-gat'n 1/8"	S.A. Non-Lint	Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprfect'ns		Spin. Poten-tial
No	Grade Name & Code	Stple	2.5% span	Unif.		Zero Gage	1/8" Gage			Gra	Yel		22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	
		32s	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	No	Pct	Lbs	Lbs	Pct	Pct	No	No	No	No	No
SOUTH CENTRAL AREA--(Continued)																					
ARKANSAS--(Continued)																					
VICTORIA							STONEVILLE 256						100 PERCENT								
3 LM	51	35	1.12	44	4.8	87	22	5.1	3.6	4	2	6.8	95	29	5.3	3.3	100	70	24	16	54
WYNNE							DELTAPINE 16						100 PERCENT								
2 SLM LT SP	42	34	1.10	45	3.5	84	24	6.9	3.8	3	3	7.0	112	38	6.5	4.6	90	70	24	21	61
LOUISIANA																					
ALEXANDRIA							STONEVILLE 213						75 PERCENT								
1 SLM	41	34	1.06	46	4.9	79	20	6.2	2.0	2	3	6.1	85	26	5.5	4.2	100	80	19	14	44
LAKE PROVIDENCE							DELTAPINE 16						100 PERCENT								
1 SLM	41	35	1.14	46	4.8	88	23	6.5	3.5	1	2	5.8	112	37	6.5	4.8	110	90	16	11	62
MISSISSIPPI																					
CLARKSDALE							STONEVILLE 213						100 PERCENT								
2 LM	51	36	1.12	46	4.6	85	23	6.1	3.0	3	2	6.5	106	34	6.4	4.5	90	70	23	22	55
COMO							STONEVILLE 213						98 PERCENT								
2 SLM	41	34	1.10	45	4.7	83	22	6.3	3.3	2	3	5.6	106	35	6.3	4.9	110	80	16	12	58
EDWARDS							STONEVILLE 213						98 PERCENT								
1 MID	31	34	1.08	45	5.0	80	21	6.1	2.8	1	3	6.1	93	28	5.8	3.8	100	80	12	11	49
GLENDORA							STONEVILLE 731N						100 PERCENT								
2 LM	51	36	1.15	47	5.0	88	24	5.1	3.5	3	2	7.1	106	35	5.7	4.3	100	70	20	14	58
GREENVILLE							DELTAPINE 16						100 PERCENT								
2 SLM	41	36	1.16	45	3.9	84	24	7.0	4.4	2	2	5.3	117	41	6.7	5.4	90	70	21	18	71
GREENVILLE							DELTAPINE 26						100 PERCENT								
1 LM	51	36	1.14	47	4.8	87	23	5.5	9.8	3	2	9.8	109	37	6.0	4.5	100	70	30	25	62
GUNNISON							DELTAPINE 61						100 PERCENT								
3 SLM	41	35	1.12	45	4.7	81	23	7.2	2.9	2	2	4.8	109	37	6.7	5.0	90	70	20	14	59
HOLLANDALE							DELTAPINE 16						100 PERCENT								
2 SLM	41	36	1.17	46	4.2	91	23	6.8	2.5	2	1	6.0	113	39	6.7	5.1	100	70	16	15	70
INDIANOLA							STONEVILLE 213						100 PERCENT								
3 LM	51	36	1.11	45	4.4	86	22	5.9	5.2	4	2	7.6	103	33	5.9	4.2	100	80	20	15	58

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1977--(Continued)

Production Area, Classification & Sample Number			Fiber Test Results									Processing Test Results - Carded Yarns									
			Digital Fibrograph		Mike	Fiber Strength		Elon-gat'n 1/8"	S.A. Non-Lint	Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprfect'ns		Spin. Potential
No	Grade Name & Code	Stple	2.5% span	Unif.		Zero Gage	1/8" Gage			Gra	Yel		22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	
		32s	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	No	Pct	Lbs	Lbs	Pct	Pct	No	No	No	No	No
SOUTH CENTRAL AREA--(Continued)																					
MISSISSIPPI--(Continued)																					
INDIANOLA							STONEVILLE 825						100 PERCENT								
3 LM	51	35	1.13	47	4.8	87	23	5.0	4.5	3	2	6.9	99	30	5.3	3.5	90	70	22	15	48
MORGAN CITY							STONEVILLE 213						100 PERCENT								
2 SLM	41	35	1.10	46	5.0	83	20	5.9	4.4	2	3	6.5	101	32	6.2	4.3	100	70	24	16	53
TRIBBETT							STONEVILLE 213						100 PERCENT								
2 SLM	41	35	1.12	47	4.9	84	22	5.9	3.5	2	3	6.4	107	36	6.0	4.5	100	90	15	9	59
WATER VALLEY							DELTAPINE 16						75 PERCENT								
2 SLM	41	34	1.10	44	4.7	80	23	6.4	3.4	2	3	6.4	97	33	6.4	4.4	100	80	17	12	52
TENNESSEE																					
BRADEN							DELTAPINE 16						70 PERCENT								
2 SLM LT SP	42	34	1.09	47	4.7	81	22	7.0	3.0	4	4	5.4	97	30	5.9	3.9	110	80	15	14	52
RIDGELY							STONEVILLE 213						90 PERCENT								
2 SLM	41	35	1.10	45	4.8	80	22	6.4	2.7	3	3	6.1	91	27	5.7	4.0	100	70	22	18	48
SOUTHWEST AREA																					
CENTRAL TEXAS																					
CROCKETT							STONEVILLE 7A						75 PERCENT								
2 SLM	41	34	1.05	46	4.8	95	21	5.4	3.0	2	3	6.2	98	30 1/	5.5	4.3	100	80	10	7	48
3 SLM	41	34	1.03	45	4.4	93	21	5.2	2.4	2	3	6.7	86	23	4.7	3.8	100	70	16	13	40
NAVASOTA							DELTAPINE 16						100 PERCENT								
3 SLM	41	35	1.12	46	4.7	82	22	6.8	2.0	1	3	5.4	108	37	6.0	4.8	110	70	15	15	65
NORTHWEST TEXAS																					
ACKERLY							LOCKETT 4789A						70 PERCENT								
1 MID	31	31	0.98	46	4.1	98	22	5.4	3.8	1	4	6.1	94	21	5.2	3.6	100	90	18	19	25
LUBBOCK							COKER 312						100 PERCENT								
1 MID	31	34	1.12	43	4.6	83	23	5.8	4.0	1	4	7.0	109	36 2/	5.9	4.8	90	60	34	23	53
LUBBOCK							COKER 5110						100 PERCENT								
1 SLM	41	35	1.10	45	4.4	84	22	6.1	4.8	1	3	8.2	108	38	6.5	4.8	80	60	26	21	59

1/ End breakage too high to spin 50s yarn. 44s yarn spun and strength adjusted to equivalent of 50s.
2/ End breakage too high to spin 50s yarn. 36s yarn spun and strength adjusted to equivalent of 50s.

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1977--(Continued)

Production Area, Classification & Sample Number			Fiber Test Results									Processing Test Results - Carded Yarns									
			Digital Fibrograph		Mike	Fiber Strength		Elon-gat'n 1/8"	S.A. Non-Lint	Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprfect'ns		Spin. Poten-tial
No	Grade Name & Code	Stple	2.5% span	Unif.		Zero Gage	1/8" Gage			Gra	Yel		22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	
		32s	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	No	Pct	Lbs	Lbs	Pct	Pct	No	No	No	No	No
WEST		AREA																			
ARIZONA																					
ROLL							DELTAPINE 61							97 PERCENT							
1	MID	31 35	1.12	45	4.4	83	22	6.7	2.8	0	3	6.2	103	33	6.0	4.7	90	70	25	17	54
CALIFORNIA																					
ARVIN							ACALA SJ-2							99 PERCENT							
1	MID	31 36	1.15	48	4.3	93	28	6.1	2.1	0	3	4.9	130	47	6.2	5.3	90	70	20	15	82
ARVIN							ACALA SJ-2							98 PERCENT							
1	MID	31 36	1.15	48	4.1	98	28	5.8	1.8	0	3	4.9 1/	135	48	6.3	5.0	90	60	25	22	80
BAKERSFIELD							ACALA SJ-2							93 PERCENT							
1	MID	31 35	1.12	46	3.9	94	28	5.6	1.7	0	3	4.8 1/	131	46	6.2	5.0	80	60	29	24	74

1/ Cotton stuck to processing rolls.

Table 4 --Cotton, American upland long staple: Quality characteristics by production areas, crop of 1977

Production Area, Classification & Sample Number			Fiber Test Results									Processing Test Results - Carded Yarns									
			Digital Fibrograph		Mike	Fiber Strength		Elon-gat'n 1/8"	S.A. Non-Lint	Color Raw Stock		P & C and Comber Waste	Strength		Elongation		Appearance Index		Imprfect'ns		Spin. Poten-tial
No	Grade Name & Code	Stple	2.5% span	Unif.		Zero Gage	1/8" Gage			Gra	Yel		22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	
		32s	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	No	Pct	Lbs	Lbs	Pct	Pct	No	No	No	No	No
SOUTHEAST AREA																					
ALABAMA																					
JACKSONVILLE							COKER 310						85 PERCENT								
1	SLM LT SP	42 34	1.06	47	5.0	83	22	6.2	3.3	4	4	6.8	91	30	5.4	4.5	110	90	15	10	48
NORTH CAROLINA																					
DUNN							COKER 310						90 PERCENT								
1	SLM	41 35	1.13	45	4.8	85	23	5.6	2.8	2	3	6.5	105	35	5.5	4.3	110	90	14	11	59
SOUTH CAROLINA																					
HARTSVILLE							COKER 310						100 PERCENT								
1	LM PLUS	50 36	1.18	45	4.9	86	24	5.6	3.6	3	3	7.9	115	39	5.3	4.7	110	80	15	9	66

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